

CLAIMS:

1. An electronic-circuit-component supplying method of supplying each of a plurality of electronic circuit components to a predetermined supplying position, by feeding a component tape which includes a carrier tape and said plurality of electronic circuit components held by said carrier tape and arranged in a longitudinal direction of said carrier tape, in said longitudinal direction of said carrier tape, said method being characterized by including:

a component-tape information reading step of reading, by a component-tape information reading device, component-tape information which is provided in said component tape; and

an information generating step of comparing the read component-tape information with predetermined component-tape information, and generating information which varies depending upon whether said read component-tape information corresponds to said predetermined component-tape information or not.

2. An electronic-circuit-component supplying method according to claim 1,

wherein said component-tape information reading step is a component-tape code recognizing step of recognizing, by a component-tape code recognizing device, a component-tape code as said component-tape information,

and wherein the recognized component-tape code is compared with a predetermined component-tape code in said information generating step.

3. An electronic-circuit-component supplying method according to claim 2, including:

a component-tape code providing step of providing said component-tape code in said component tape,

wherein said component-tape-code providing step includes a connecting step of connecting two component tapes such that a trailing end portion of one of said two component tapes and a leading end portion of the other of said two component tapes are connected through a connecting

member which is provided with said component-tape code.

4. An electronic-circuit-component supplying method according to claim 3, wherein said component-tape code providing step includes a code-carrying connecting-member preparing step of providing said component-tape code in said connecting member.

5. An electronic-circuit-component supplying method according to claim 4,

wherein said code-carrying connecting-member preparing step includes a storing-member-code recognizing step of recognizing, by a storing-member-code recognizing device, a storing-member code provided in a tape-storing member which stores said component tape,

wherein said connecting member is provided with said component-tape code in the form of an identification code corresponding to said storing-member code recognized in said storing-member-code recognizing step.

6. A component-tape information providing method including:

a storing-member information reading step of reading, by a storing-member information reading device, storing-member information provided in a tape storing member storing a component tape which includes a carrier tape and said plurality of electronic circuit components held by said carrier tape and arranged in a longitudinal direction of said carrier tape; and

a component-tape information providing step of providing said component tape with component-tape information relating to said component tape, wherein said component-tape information corresponds to said storing-member information which is read in said storing-member information reading step.

7. A component-tape information providing method according to claim 6,

wherein said storing-member information reading step is a storing-member code recognizing step of recognizing a storing-member code

as said storing-member information,

and wherein said component-tape information providing step is a component-tape code providing step of providing said component tape with a component-tape code corresponding to said storing-member code.

8. A component-tape information providing method according to claim 7,

wherein said component-tape code providing step includes:

a step of providing a connecting member with said component-tape code in the form of an identification code corresponding to said storing-member code recognized in said storing-member code recognizing step, and

a step of connecting two component tapes such that a trailing end portion of one of said two component tapes and a leading end portion of the other of said two component tapes are connected through said connecting member.

9. An electronic-circuit-component supplying system comprising:

a tape feeder which supplies each of a plurality of electronic circuit components to a predetermined supplying position, by feeding a component tape which includes a carrier tape and said plurality of electronic circuit components held by said carrier tape and arranged in a longitudinal direction of said carrier tape, in said longitudinal direction of said carrier tape;

a component-tape information reading device which reads component-tape information which is provided in said component tape fed by said tape feeder; and

an information generating portion which generates information varying depending upon whether said component-tape information read by said component-tape information reading device is predetermined information or not.

10. An electronic-circuit-component supplying system according to claim 9,

wherein said component-tape information reading device is a

component-tape code recognizing device which recognizes a component-tape code provided in said component tape,

and wherein said information generating portion generates the information varying depending upon whether said component-tape code, which is recognized by said component-tape code recognizing device, is a predetermined code or not.

11. An electronic-circuit-component supplying system according to claim 10, including:

a component-tape code providing device which provides said component-tape code in said component tape,

wherein said component-tape code providing device includes a tape connecting device which connects two component tapes such that a trailing end portion of one of said two component tapes and a leading end portion of the other of said two component tapes are connected through a connecting member which is provided with said component-tape code so that said component-tape code is provided in the connected component tapes.

12. An electronic-circuit-component supplying system according to claim 11, including:

a code-carrying connecting-member preparing device which provides said component-tape code in said connecting member,

wherein said code-carrying connecting-member preparing device includes:

a storing-member code recognizing device which recognizes a storing-member code provided in a tape storing member storing said component tape; and

a connecting-member code providing device which provides said connecting member with said component-tape code in the form of an identification code corresponding to said storing-member code recognized by said storing-member code recognizing device.

13. An electronic-circuit-component mounting system, including:

a component supplying device which supplies a plurality of electronic circuit components;

a board holding device which holds a circuit board, onto which said electronic circuit components are to be mounted so that said circuit board constitutes an electronic circuit; and

a component mounting device which receives said electronic circuit components from said component supplying device, and mounts said electronic circuit components onto said circuit board held by said board holding device,

said system being characterized in that

said component supplying device includes a tape feeder which sequentially supplies said plurality of electronic circuit components to a predetermined supplying position, by feeding a component tape which includes a carrier tape and said plurality of electronic circuit components held by said carrier tape and arranged in a longitudinal direction of said carrier tape, in said longitudinal direction of said carrier tape,

and in that said system includes:

a component-tape information reading device which reads component-tape information that is provided in said component tape; and

an information generating portion which generates information varying depending upon whether said component-tape information read by said component-tape information reading device is predetermined information or not.

14. An electronic-circuit-component mounting system according to claim 13,

wherein said component-tape information reading device is a component-tape code recognizing device which recognizes a component-tape code as said component-tape information provided in said component tape,

and wherein said information generating portion which generates the information varying depending upon whether said component-tape code, which is recognized by said component-tape code recognizing device, is a predetermined code or not.

15. A component-supplying-tape connecting member for connecting a leading end portion of a component supplying tape and a trailing end portion of another component supplying tape, each of the component supplying tapes holding a plurality of electronic circuit

components arranged thereon, and being to be fed in a longitudinal direction thereof for sequentially positioning said electronic circuit components in a component supplying position,

said connecting member being characterized by including an information medium portion which enables information to be writable to and readable from said information medium portion.

16. A component-supplying-tape connecting member according to claim 15, wherein said information medium portion enables the information to be writable to and readable from said information recording portion, in a non-contact manner.

17. A component-supplying-tape connecting member according to claim 15, wherein said information medium portion stores information relating to said electronic circuit components held by said component supplying tape.

18. A component-supplying-tape connecting member according to claim 15, being a connecting tape.

19. A connecting-member supplying device for supplying a connecting member which connects a leading end portion of a component supplying tape and a trailing end portion of another component supplying tape, each of the component supplying tapes holding a plurality of electronic circuit components arranged thereon, and being to be fed in a longitudinal direction thereof for sequentially positioning said electronic circuit components in a component supplying position, said connecting-member supplying device being characterized by including:

an information reading and supplying device which reads, from a storing-member-information medium portion, information relating to said electronic circuit components held by said component supplying tape, and which supplies said information, said storing-member-information medium portion being provided in a tape storing member which stores said component supplying tape such that said component supplying tape can be taken out of said tape storing member, with said leading end portion being first pulled out of said tape storing member;

an information writing device which writes at least a part of said information supplied from said information reading and supplying device, to a connecting-member information medium portion provided in a connecting member, such that the written part of said information is readable from said connecting-member information medium portion, said connecting member connecting said leading end portion of said component supplying tape stored in said tape storing member, with said trailing end portion of said another component supplying tape; and

a supplying portion which holds said connecting member, and allows supply of said connecting member after said part of said information is written to said connecting-member information medium portion by said information writing device.

20. An electronic-circuit-component supplying system including:

a tape feeder which includes a storing-member holding portion holding a tape storing member storing a component supplying tape which holds a plurality of electronic circuit components arranged thereon, and which is to be fed in a longitudinal direction of said tape for sequentially positioning said electronic circuit components in a component supplying position, and a feeding device feeding said component supplying tape in said longitudinal direction, by taking said component supplying tape out of said tape storing member, such that a leading end portion of said tape is first pulled out of said tape storing member, whereby said electronic circuit components are sequentially positioned in the component supplying position;

an information reading and supplying device which reads, from a storing-member-information medium portion provided in said tape storing member, information relating to said electronic circuit components held by said component supplying tape, and which supplies said information;

an information writing device which writes at least a part of said information supplied from said information reading and supplying device, to a connecting-member information medium portion provided in a connecting member, such that the written part of said information is readable from said connecting-member information medium portion, said

connecting member connecting said leading end portion of said component supplying tape stored in said tape storing member, with a trailing end portion of another component supplying tape which is being fed by said feeding device; and

a supplying portion which holds said connecting member, and allows supply of said connecting member after said part of said information is written to said connecting-member information medium portion by said information writing device.

21. An electronic-circuit-component supplying system according to claim 20, including:

a connecting-member information reading device which is disposed in the vicinity of feed path of said component supplying tape and which reads said written part of said information from said connecting-member information medium portion; and

a different-information generating portion operable when said part of said information read by said connecting-member information reading device is different from predetermined information, to generate information indicating that the read information is different from said predetermined information,

wherein said electronic-circuit-component supplying system stops supply of said electronic circuit components in accordance with said information generated by said different-information generating portion.

22. An electronic-circuit-component mounting system, including:

a board holding device which holds a circuit board such as a printed-wiring board;

a tape feeder which positions each of a plurality of electronic circuit components arranged on and held by a component supplying tape, in a predetermined component supplying position, by feeding said component supplying tape in a longitudinal direction thereof

a mounting device which receives said electronic circuit components positioned in said component supplying position by said tape feeder, and mounts said electronic circuit components onto said circuit board held by said board holding device;



a tape information reading device which is disposed in the vicinity of feed path of said component supplying tape and which reads information from a tape information medium portion provided in said component supplying tape; and

a different-information generating portion operable when said information read by said tape information reading device is different from predetermined information, to generate information indicating that the read information is different from said predetermined information.

23. An electronic-circuit-component mounting system according to claim 22,

wherein said tape feeder feeds connected component-supplying tapes which are constituted by connection of a trailing end portion of a preceding component-supplying tape and a leading end portion of a following component-supplying tape through a connecting member,

and wherein said tape information reading device includes a connecting-member information reading device which reads information from a connecting-member information medium portion provided in said connecting member.

24. An electronic-circuit-component mounting system including:

a board holding device which holds a circuit board such as a printed-wiring board;

a tape feeder which includes a storing-member holding portion holding a tape storing member storing a component supplying tape which holds a plurality of electronic circuit components arranged thereon, and which is to be fed in a longitudinal direction of said tape for sequentially positioning said electronic circuit components in a component supplying position, and a tape feeding device feeding said component supplying tape in said longitudinal direction, by taking said component supplying tape out of said tape storing member, such that a leading end portion of said tape is first pulled out of said tape storing member, whereby said electronic circuit components are sequentially positioned in the component supplying position;

an information reading and supplying device which reads, from a storing-member-information medium portion provided in said tape storing member, information relating to said electronic circuit components held by said component supplying tape, and which supplies said information;

an information writing device which writes at least a part of said information supplied from said information reading and supplying device, to a connecting-member information medium portion provided in a connecting member, such that the written part of said information is readable from said connecting-member information medium portion, said connecting member connecting a leading end portion of said component supplying tape stored in said tape storing member, with a trailing end portion of another component supplying tape which is being fed by said tape feeding device;

a supplying portion which holds said connecting member, and allows supply of said connecting member after said part of said information is written to said connecting-member information medium portion by said information writing device;

a mounting device which receives said electronic circuit components from said tape feeder, and mounts said electronic circuit components onto said circuit board held by said board holding device;

a connecting-member information reading device which is disposed in the vicinity of feed path of said component supplying tape and which is operable upon approximation of said connecting member to said reading device, to read said written part of said information from said connecting-member information medium portion; and

a different-information generating portion operable when said part of said information read by said connecting-member information reading device is different from predetermined information, to generate information indicating that the read information is different from said predetermined information.

25. A component information providing method of providing information relating to a plurality of electronic circuit components arranged and held on and by one of two component supplying tapes, in a connecting member which connects a leading end portion of said one of the two

component supplying tapes with a trailing end portion of the other of the two component supplying tapes that precedes said one of the two component supplying tapes, so that supply of a plurality of electronic circuit components through the preceding component supplying tape is followed by supply of said electronic circuit components through the following component supplying tape, said method being characterized by including:

an information reading step of reading said information from a storing-member information medium portion which has said information stored therein and which is provided in a tape storing member storing said following component supplying tape; and

an information writing step of writing at least a part of the read information, to a connecting-member information medium portion provided in said connecting member, such that the written part of said information is readable from said connecting-member information medium portion.

26. An electronic-circuit-component supplying method of feeding a plurality of component supplying tapes each holding a plurality of electronic circuit components arranged thereon, in a longitudinal direction of said component supplying tapes, for sequentially positioning said electronic circuit components in a component supplying position so as to supply said electronic circuit components, said method being characterized by including:

a component supplying step of supplying said electronic circuit components through a preceding component supplying tape which is one of said plurality of component supplying tapes;

an information reading step of reading, at latest before completion of supply of said electronic circuit components through said preceding component supplying tape, information relating to said electronic circuit components held by another of said plurality of component supplying tapes which follows said preceding component supplying tape, from a storing-member information medium portion provided in a tape storing member which stores said another of said plurality of component supplying tapes;

an information writing step of writing at least a part of the read information, to a connecting-member information medium portion

provided in a connecting member, such that the written part of said information is readable from said connecting-member information medium portion;

a tape connecting step of connecting a leading end portion of said another of said plurality of component supplying tapes, to a trailing end portion of said preceding component supplying tape, through said connecting member provided with said connecting-member information medium portion to which said at least part of said information has been written;

an information reading step of reading said at least part of said information written to said connecting-member information medium portion of said connecting member, when said connecting member reaches a predetermined position in step of the supply of said electronic circuit components through said preceding component supplying tape; and

a switch allowing/inhibiting step of allowing, if the read information corresponds to a predetermined information, switch from said supply of said electronic circuit components through said preceding component supplying tape, to supply of said electronic circuit components through said another of said component supplying tapes, while inhibiting said switch if said read information is different from said predetermined information.